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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/535,422

12/19/2005

Daisuke Kuroda

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EXAMINER

ZHU, WEIPING

ART UNIT

PAPER NUMBER

1734

MAIL DATE

DELIVERY MODE

01/19/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,422	Applicant(s) KURODA ET AL.	
	Examiner WEIPING ZHU	Art Unit 1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5-7,12-14,16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5-7,12-14,16 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/2/2010</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 2nd, 2010 has been entered.

Status of Claims

2. Claims 1-3, 5-7, 12-14, 16 and 18 are currently under examination wherein claim 1 has been amended in applicant's amendment filed on March 2nd, 2010. Claims 4 and 11 have been cancelled in the same amendment.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 5-7, 12-14, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berns (US 5,503,687) in view Takemura et al. (US 4,059,440) and further in view of Jalisi et al. (US 6,508,832 B1).

With respect to claim 1, Berns ('687) discloses a method for producing a component comprising bringing a ferritic stainless steel component in contact with a gas

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containing nitrogen at a treatment temperature between 1000°C and 1200°C which overlaps the claimed temperature range to make the component absorb nitrogen to transform at least part of the ferritic stainless steel to austenite (claim 4 and abstract).

Berns ('687) does not specify the ferritic stainless steel is substantially free of nickel as claimed. However, it would have been obvious to one of ordinary skill in the art that the ferritic stainless steel of Berns ('687) would meet the claim limitation of the content of nickel, because ferritic stainless steel is well known to have very little nickel, which would read on the claim limitation of substantially free of Ni, as disclosed by Takemura et al. ('440) (col. 1, lines 12-21 and Table 1, SUS 434).

Berns ('687) in view of Takemura et al. ('440) does not specify the claimed melting step of producing the ferritic stainless steel and the claimed working step of working the ferritic steel to the component as claimed. However, it would have been obvious to one of ordinary skill in the art that the method of Berns ('687) in view of Takemura et al. ('440) would comprise both steps, because Berns ('687) in view of Takemura et al. ('440) teaches enriching the surface of a component made of low-nitrogen-content stainless steel produced by an open steel smelting process with nitrogen to increase the wear resistance of the component (Berns ('687), col. 1, lines 5 to col. 2, line 2) and a working step will obviously be involved in shaping the stainless steel of Berns ('687) in view of Takemura et al. ('440) into the component of a desired shape and dimension (e.g. working a stainless steel tube into a stent as claimed). The nitrogen treatment step would obviously be performed after the working step when the component has acquired the desired shape and dimension because Berns ('687)

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teaches to perform nitrogen enrichment when the stainless steel components are nearly in their final shape (col. 1, lines 49-65).

Berns ('687) in view of Takemura et al. ('440) does not specify the claimed stent expandable in outside diameter. Jalisi et al. ('832 B1) discloses a nickel-free austenitic stainless steel expandable stent (col. 2, lines 21-25 and col. 5, lines 9-22). It would have been obvious to one of ordinary skill in the art to use the nitrogen treated ferritic stainless steel of Berns ('687) in view of Takemura et al. ('440) for a stent as disclosed by Jalisi et al. ('832 B1) with expected success because the compositions and the structures of the nitrogen treated ferritic stainless steel of Berns ('687) in view of Takemura et al. ('440) and the austenitic stainless steel of Jalisi et al. ('832 B1) are similar.

Berns ('687) discloses that the nitrogen treated ferritic stainless steel component comprises an austenitic surface layer of a desired thickness (col. 1, lines 49-65) without limiting the thickness of the surface layer. It would have been obvious to one of ordinary skill in the art at the time of the invention to use the method disclosed by Berns ('687) to transform the entire ferritic stainless steel component of Berns ('687) in view of Takemura et al. ('440) to austenite as instantly claimed with an expectation of success because Berns ('687) discloses the same utility of the nitrogen enrichment for the ferritic stainless steel component having any thicknesses as desired.

With respect to claims 2 and 3, Berns ('687) does not specify the composition of the ferritic stainless steel as claimed. However, It would have been obvious to one of ordinary skill in the art that the composition of the ferritic stainless steel of Berns ('687)

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would meet the imitations of Fe, Cr and/or Mn and Mo and/or Ti contents as claimed, because a conventional ferritic stainless steel SUS 434 would include by weight 16.51% of Cr and 1.03% of Mo as disclosed by Takemura et al. ('440) (Table 1, SUS 434), which are within the claimed Cr and Mo ranges respectively.

With respect to claims 5 and 12, Berns ('687) discloses the treatment temperature is between 1000°C and 1200°C (abstract), which overlaps the claimed temperature range.

With respect to claims 6, 7, 13, and 14, Berns ('687) discloses the nitrogen content of the nitrogen treated ferritic stainless steel is greater than or equal to 1.4% by weight (Berns ('687), col. 2, lines 25-35 and Figure 2), which overlaps the claimed nitrogen contents.

With respect to claim 16, Berns ('687) discloses the same utility of the nitrogen enrichment for the ferritic stainless steel component having any thicknesses (col. 1, lines 49-65) as discussed above, indicating all of the ferritic stainless steel could be transformed to austenite as desired.

With respect to claim 18, Jalisi et al. ('832 B1) discloses forming a metal tube of thickness 0.0022 to 0.06 inch (about 56-1500 microns), which overlaps the claimed range.

Response to Arguments

4. The applicant's arguments filed on March 2nd, 2010 have been fully considered but they are moot in view of new grounds of rejections as stated above.

Conclusions

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5. This Office action is made non-final. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Weiping Zhu whose telephone number is 571-272-6725. The examiner can normally be reached on 8:30-16:30 Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Emily Le can be reached on 571-272-0903. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Weiping Zhu/
Examiner, Art Unit 1734

1/10/2011